

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MA SHIPPING

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Appeal 2006-2557  
Application 10/004,978  
Technology Center 1700

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Decided: November 30, 2006

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Before KIMLIN, KRATZ, and TIMM, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Final Rejection of claims 1-21. A copy of illustrative claim 1 is appended to this Decision.

The Examiner relies upon the following references as evidence of obviousness:

Narushima	US 3,948,836	Apr. 6, 1976
Hayashi	JP 58,076,447	May 9, 1983 <sup>1</sup>
Wittmann	US 5,030,675	Jul. 9, 1991
Choi	US 5,087,521 A	Feb. 11, 1992
Umeda	US 5,449,710 A	Sep. 12, 1995
Fuhr	US 5,658,974 A	Aug. 19, 1997
Yamamoto	US 6,184,312 B1	Feb. 6, 2001

The appealed claims stand rejected under 35 U.S.C. § 103(a) as follows:

(a) claims 1, 2, 4-11, 16-19, and 21 over Yamamoto in view of Fuhr,  
(b) claims 3 and 20 over the stated combination of references further in view of JP '447,

(c) claim 12 over the stated combination of references further in view of Wittmann,

(d) claim 13 over the stated combination of references further in view of Umeda, and

(e) claims 14 and 15 over the stated combination of references further in view of Choi or Narushima.

Appellant submits that “only the one ground of rejection is argued in this Appeal” (Br. 3, ¶ 2), namely, the Section 103 rejection of claims 1, 2, 4-11, 16-19 and 21 over Yamamoto in view of Fuhr. Since Appellant has not advanced an argument that is reasonably specific to any particular claim on appeal, all the appealed claims stand or fall together with claim 1, and we will limit our consideration to the Examiner’s rejection of claim 1 under 35 U.S.C. § 103.

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<sup>1</sup> Hereinafter referred to as “JP ‘447.”

We have thoroughly reviewed each of Appellant's arguments for patentability, as well as the Specification and Declaration evidence relied upon in support thereof. However, we concur with the Examiner that the claimed subject matter, as a whole, would have been obvious to one of ordinary skill in the art within the meaning of Section 103 in view of the prior art considered as a whole. Accordingly, we will sustain the Examiner's rejections for essentially those reasons expressed in the Answer.

There is no dispute that Yamamoto, like Appellant, discloses a polycarbonate-based nonflammable resin composition comprising the presently claimed alkoxy group-containing organopolysiloxane that corresponds to the recited formula. As recognized by the Examiner, Yamamoto does not disclose the inclusion of the claimed phosphoric ester in the polycarbonate-based composition. However, as acknowledged by Appellant, Fuhr discloses a polycarbonate-based nonflammable resin composition comprising a silicone resin and a phosphoric ester flame retardant that falls within the scope of claim 1. Accordingly, since Fuhr teaches the claimed phosphoric ester as a flame retardant in a polycarbonate-based resin composition, and Yamamoto, as well as the present Specification, evidence that phosphorus-containing compounds were known as flame retardants, we fully concur with the Examiner that it would have been prima facie obvious for one of ordinary skill in the art to include the claimed phosphorous ester in the polycarbonate composition of Yamamoto as a flame retardant.

We are not persuaded by Appellant's argument that Yamamoto's reference to the exclusion of phosphorus as a flame retardant is a teaching away that negates a conclusion of obviousness. To be sure, Yamamoto

teaches the advantage of not using a phosphorus-containing flame retardant that evolves harmful gasses when burned, but one of ordinary skill in the art would have understood that phosphorus-containing flame retardants like those disclosed in Fuhr can be utilized in applications where harmful gasses can be tolerated. We note that Appellant sets forth no argument, let alone evidence, that the claimed phosphorus-containing composition does *not* produce harmful gasses when burned. Just as it is a matter of obviousness for one of ordinary skill in the art to eliminate a feature of the prior art along with its attendant advantage, it is a matter of obvious for one of ordinary skill in the art to incorporate a feature of the prior art along with its disadvantage. One of ordinary skill in the art has sufficient expertise to weigh the advantages and disadvantages of using a known component.

Appellant also maintains “Fuhr does not teach that the phosphorus compounds by themselves are sufficient to result in a composition that is self-extinguishing [but] Fuhr teaches that the combination of specific types of phosphorous compounds and specific types of silicone resins produce this result” (Br. 5, ¶ 2). However, as explained by the Examiner “even though more beneficial or improved results are obtained when both the phosphorous compounds and the siloxane compound are present in the aromatic polycarbonate based composition, addition of the phosphorous compound by itself still results in significant improvement of flame retardant properties” (Answer 7, ¶ 2). As for Appellant’s argument that “[t]he silicone resin of Fuhr and the organosiloxane of Yamamoto have different properties” (Br. 5, ¶ 3), we refer to the analysis at page 8 of the Examiner’s Answer as a reasonable basis for concluding that one of ordinary skill in the art would have reasonably expected that the inclusion of Fuhr’s phosphorus

compounds in the polycarbonate compositions of Yamamoto would provide additional flame retardency. Also, in the event one of ordinary skill in the art experiences difficulty in obtaining a sufficient amount of Yamamoto's flame retardants, we find that one of ordinary skill in the art would have had a reasonable expectation of substituting the phosphorous flame retardants of Fuhr for some of the required flame retardants of Yamamoto.

Appellant relies upon two Declarations by the present inventor as evidence of unexpected results. However, we fully concur with the Examiner that the limited Declaration evidence is hardly commensurate in scope with the degree of protection sought by the appealed claims. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 778 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980). The Declarations show results for only two phosphorus compounds in accordance with the present invention, namely, BPADP and RDP. However, the general formula recited in claim 1 for the phosphoric ester encompass a myriad of compounds wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$  are each independently a  $C_1$  to  $C_{30}$  hydrocarbon, and X is a  $C_1$  to  $C_3$  divalent organic group that may contain an oxygen atom and/or a nitrogen atom. Manifestly, the terms "hydrocarbon" and "divalent organic group" are quite extensive in scope, and we also note that  $m$  can be an integer from 0 to 5. In similar fashion, the claimed alkoxy group-containing organopolysiloxane includes a wide variety of siloxanes. Significantly, Appellant has not demonstrated that the results attributed to two specific phosphorus compounds reasonably translate to the broad genus of phosphoric esters and organopolysiloxanes embraced by the appealed claims. It is well settled that the burden of establishing unexpected results rests on the party asserting them. *In re*

*Merck & Co.*, 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986); *In re Klosak*, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972).

Furthermore, as detailed by the Examiner at pages 10-11 of the Answer, Appellant's evidence is not commensurate in scope with respect to the claimed amount of phosphoric ester, which ranges from 0.5 to 20 parts by weight. Likewise, the evidence is not commensurate in scope with the claimed amount of organopolysiloxane, which ranges from 0.05 to 20 parts by weight. In addition, we must agree with the Examiner that Appellant has not established on this record that the Specification and Declaration results would be considered truly unexpected by one of ordinary skill in the art inasmuch as one of ordinary skill would have reasonably expected an increase in flame retardancy upon the addition of a known flame retardant. *Merck*, supra.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, it is our judgment that the evidence of obviousness produced by the Examiner outweighs the evidence of nonobviousness advanced by Appellant. Accordingly, the Examiner's decision rejecting the appealed claims is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(I)(iv)(2005).

AFFIRMED

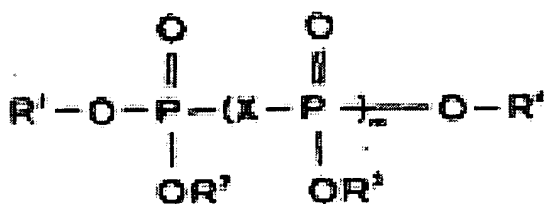
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## APPENDIX

1. A polycarbonate-based nonflammable resin composition, comprising:

- a. a polycarbonate-based resin (A-1);
- b. a phosphoric ester (B) expressed by the following formula;



where  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$ , and  $\text{R}^4$  are each independently a  $\text{C}_1$  to  $\text{C}_{30}$  hydrocarbon; X is a  $\text{C}_1$  to  $\text{C}_{30}$  divalent organic group that may contain an oxygen atom and/or a nitrogen atom; and m is an integer from 0 to 5;

- c. an alkoxy group-containing organopolysiloxane (C) expressed by the following average compositional formula:

$$\text{R}^1_a \text{Si}(\text{OR}^2)_b \text{O}_{(4-a-b)/2} \dots (1)$$

wherein  $\text{R}^1$  is a substituted or unsubstituted univalent hydrocarbon group containing an aryl group as an essential component;  $\text{R}^2$  is a substituted or unsubstituted univalent hydrocarbon group;  $\text{R}^1$  and  $\text{R}^2$  may be the same as or different from each other;  $0.2 \leq a \leq 2.7$ ;  $0.2 \leq b \leq 2.4$ ; and  $a + b < 3$ ,

wherein

said phosphoric ester (B) being contained in an amount of 0.5 to 20 weight parts and said alkoxy group-containing organopolysiloxane (C) in an amount of 0.05 to 20 weight parts per 100 weight parts of the polycarbonate-based resin (A-1).